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### Assessing fluid responsiveness with esophageal Doppler dynamic indices: concepts and methods

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Sir: We read with great interest the studies published by Drs. Monnet et al. [1] and Vallee et al. [2] concerning the assessment of fluid responsiveness using esophageal Doppler in mechanically ventilated patients. The two medical teams found that stroke volume (aortic blood flow) variations are valuable tools to measure fluid responsiveness in these kind of patients. We would like to add some comments to their findings. Although the authors presented no correlations between baseline dynamic indexes and cardiac index changes after volume infusion, the good discrimination of these indexes between responders and nonresponders provide evidence that an adequate correlation exists

(mathematical transitivity). However, cardiac index and these baseline dynamic indexes are measured simultaneously by the same method (device). Thus this finding may be biased, as flow velocity time integral is a shared variable in the calculation of both cardiac index and stroke volume (aortic blood flow) variations. Consequently a mathematical coupling may have contributed to the observed reliable discrimination of these indices between responders and nonresponders [3]. We believe that the authors should acknowledge this limitation in the manuscript discussion.

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